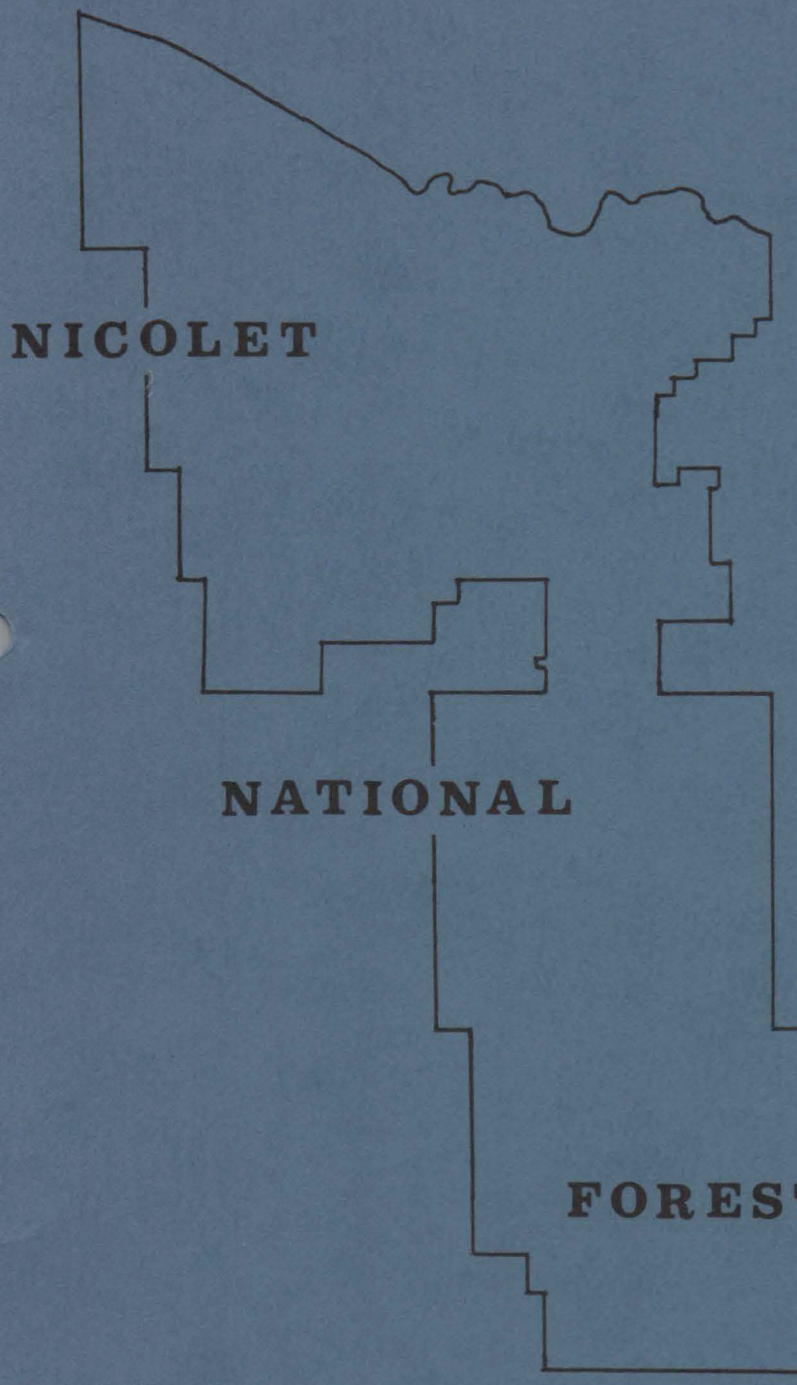
RECONNAISSANCE SURVEY



SPRUCE BUDWORM DEFOLIATION 1973

NICOLET NATIONAL FOREST

USDA, FOREST SERVICE
NORTHEASTERN AREA
STATE and PRIVATE FORESTRY
FOREST PEST MANAGEMENT

REPORT NO. S-9-73

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5230

Reconnaissance Survey
Spruce Budworm Defoliation
on The
Nicolet National Forest - 1973

By

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ABSTRACT

A spruce budworm, Choristoneura fumiferana (Clem.) outbreak was reported on the Eagle River District. Moderate to heavy defoliation occurred to approximately 600 acres of spruce-fir type. Low to high egg-mass counts indicate that moderate to severe defoliation will occur in 1974. Chemical treatment may be needed in the managed spruce-fir stands and adjacent spruce plantations to reduce losses.

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INTRODUCTION

Heavy defoliation of balsam fir and white spruce stands by the spruce budworm, Choristoneura fumiferana (Clem.) was reported in July by the Eagle River Ranger District. The forest requested an evaluation be made for possible salvage or control measures.

The budworm is also building up on adjacent state and private lands.

SURVEY METHODS

Aerial survey

The aerial survey was done by Stan Banash, Wisconsin DNR entomologist. The information was supplied to the forest.

Ground survey

An egg-mass and defoliation survey was completed in late July.

Samples were taken from 5 balsam fir and 2 white spruce plots, (distribution shown in Figure 1). A sample consists of three 15" twigs, taken from mid-crown of 3 trees (total of 9 twigs per plot). Each twig was examined for egg-masses and defoliation of the trees as a whole in the general vicinity of the plots. Defoliation of each twig was classed as follows:

Class	Current Defoliation
0	None
1	5-25%
2	26-50%
3	51-75%
4	75%+

Defoliation of the nine twigs were averaged to determine a class for each plot (Table 1).

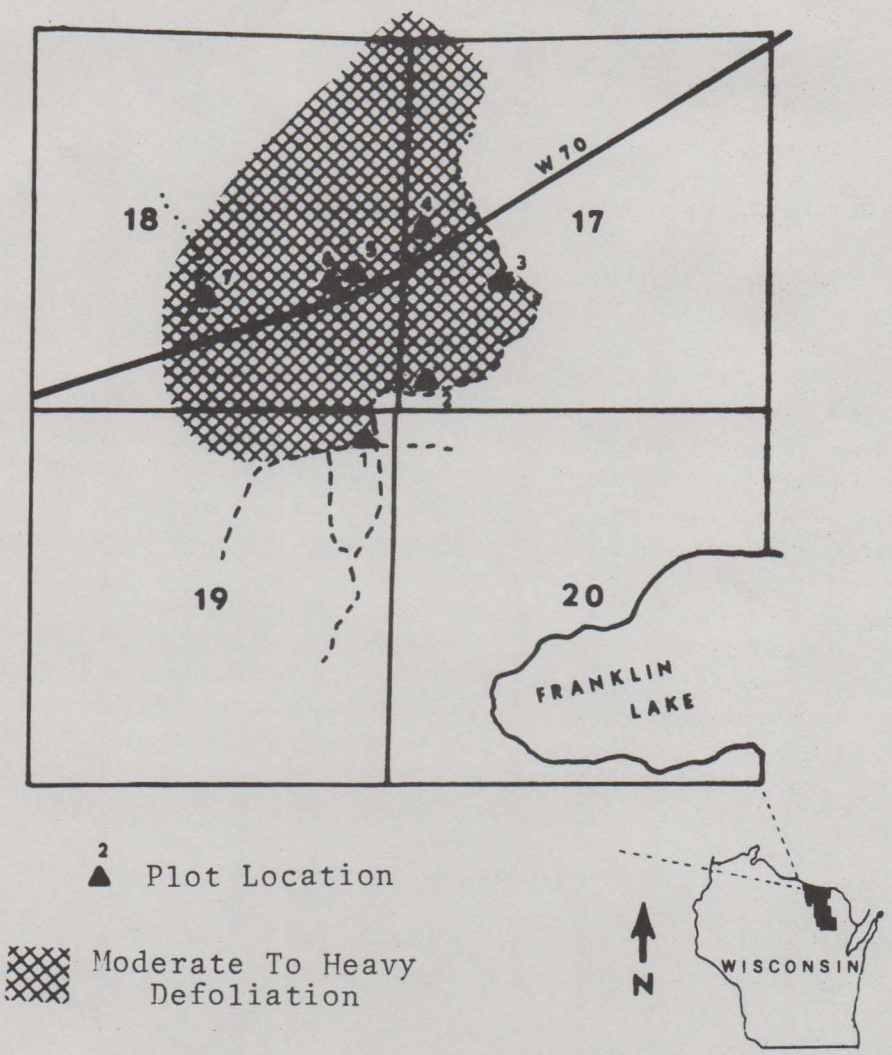

Figure 1. Spruce budworm defoliation and egg-mass plot locations on the Nicolet N.F. - 1973.

Table 1. Spruce budworm egg-mass counts and defoliation on the Nicolet N.F. - 1973.

Plot No.	Total Egg-Masses	Defoliation Class
	BALSAM FIR PLOTS	
1	17	3
3	5	1
4	3	1
6	64	2
7	0	0
	WHITE SPRUCE PLOTS	
2	30	2
5	45	3

RESULTS AND DISCUSSION

Moderate to heavy defoliation has occurred to approximately 600 acres of balsam fir and white spruce stands in T.40N., R.12E. (Fig. 1). Damage is confined to the current shoots with indications that budworm feeding also occurred in 1972. Overall, about 30% of the needles were defoliated on the balsam fir and 50% on the white spruce. Egg-mass counts (0-64) from balsam fir indicate a low to high budworm population and for white spruce a high population (30-45) for 1974. Populations of 16+ egg-masses per sample plot indicate heavy to severe defoliation may occur the following year.

The current infestation is relatively new and on the basis of information from the Wisconsin DNR, populations in the area are building up. Moderate to severe damage will result from the budworm if the trend continues.

RECOMMENDATIONS

1. Chemical suppression should be considered in those stands being managed as a spruce-fir stand and also to protect other spruce plantations in the immediate area.

2. If a suppression action is tentatively indicated, that information should be sent to the St. Paul F.O. for follow-up action.

3. All forest field-going personnel should report new outbreak areas to FPM. (Use Form 5200-1).